

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
EASTERN DIVISION**

TERVES LLC,

Plaintiff,

vs.

YUEYANG AEROSPACE NEW
MATERIALS CO., LTD., et al.,

Defendants.

Case No. 1:19-cv-1611-DCN

Judge Donald C. Nugent

**MEMORANDUM IN SUPPORT OF
DEFENDANTS' MOTION FOR SUMMARY JUDGMENT**

Edward L. White, OBA No. 16549
EDWARD L. WHITE, P.C.
829 E. 33rd Street
Edmond, OK 73013
Telephone: (405) 810-8188
Facsimile: (405) 608-0971
Email: ed@edwhitelaw.com
ADMITTED PRO HAC VICE

Martin S. High, SC Bar #102735;
OK Bar #20725, TX Bar # 24108819
Martin S. High, P.C.
PO Box 33190
Clemson SC 29733-3190
Phone: 864.300.2444
Fax: 866.232.1096
Email: marty@martyhigh.com
ADMITTED PRO HAC VICE

Joe E. White, Jr. OBA No. 12930
Charles C. Weddle, III, OBA No. 18869
WHITE & WEDDLE, P.C.
630 N.E. 63rd Street
Oklahoma City, OK 73105
Telephone: (405) 858-8899
Facsimile: (405) 858-8844
Emails: joe@whiteweddle.com
charles@whiteweddle.com
ADMITTED PRO HAC VICE

**COUNSEL FOR DEFENDANTS,
ECOMETAL INC. AND NICK YUAN**

TABLE OF CONTENTS

TABLE OF AUTHORITIES	iii, iv
EXHIBITS.....	iv, v
MEMORANDUM IN SUPPORT OF DEFENDANTS’ MOTION FOR SUMMARY JUDGMENT	1
I. UNDISPUTED MATERIAL FACTS	1
1. Terves Patent Family	1
2. Chinese Patent Office Rejection of Terves Patent in view of Xiao	2
3. Litigation and Prosecution Related Facts	2
4. Anticipation Facts	3
5. Indefiniteness Facts.....	3
II. ARGUMENTS AND AUTHORITIES.....	4
1. Xiao Anticipates the ‘653 and ‘740 Patent Claims Rendering Them Invalid.....	4
2. Inequitable Conduct Renders Terves’ Patent Invalid	10
3. Indefiniteness of the Claim Term “Magnesium Alloy”	17
4. Indefiniteness of the Claim Term “Dissolution Rate”	19
CONCLUSION	20

TABLE OF AUTHORITIES

Cases

<i>Accordant Energy, LLC v. Vexor Tech., Inc.</i> , No. 1:17 CV 411, 2017 WL 5588869, at *2 (N.D. Ohio Nov. 21, 2017).....	17
<i>Anderson v. Liberty Lobby, Inc.</i> , 477 U.S. 242 (1986).....	4
<i>A.Schulman, Inc. v. Polyone Corp., Inc.</i> , No. 1:15 CV 1760, 2017 WL 2805857, at *3 (N.D. Ohio Apr. 27, 2017) <i>Aff'd sub nom.</i> 712F. App'x 1007 (Fed. Cir. 2018).....	17, 18
<i>Critikon, Inc. vs. Becton Dickinson Vascular Access, Inc.</i> , 120 F.3d 1253 (Fed. Cir. 1997).....	12,13
<i>Ecolochem, Inc. v. S. California Edison Co.,I</i> , 863 F. Supp. 1165 (C.D. Cal. 1994), <i>aff'd</i> in part, <i>rev'd</i> in part, 91 F.3d 169 (Fed. Cir. 1996).....	8
<i>Everlight Elecs. Co. v. Nichia Corp.</i> , 143 F. Supp. 3d 644 (E.D. Mich. 2015), <i>aff'd</i> 719 F. App'x 1008 (Fed. Cir. 2018).....	11, 17
<i>Genveto Jewelry Co. v. Lambert Bros., Inc.</i> , 542 F. Supp. 933 (S.D.N.Y. 1982)	10, 14
<i>J.P. Stevens & Co., Inc. v. Lex Tex, Ltd., Inc.</i> , 747 F.2d at 1553, 1560, 1559 (Fed. Cir. 2011).....	10, 11, 12
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 572 U.S. 898 (2014).....	17
<i>Schering Corp. v. Geneva Pharms.</i> , 339 F.3d 1337 (Fed. Cir. 2003).....	4
<i>Soile Pharma, Inc., v. Lupin, Ltd.</i> , 684 F.3d 1253, 1260 (Fed. Cir. 2012).....	4
<i>Semiconductor Energy Laboratory Co. v. Samsung Electronics Co.</i> , 204 F.3d 1368, 1560, 54 USPQ2nd 1001 (Fed. Cir. 2000)	11, 14
<i>SmithKline Beechham Corp. v. Apotex Corp.</i> , 403 F.3d 1331 (Fed. Cir. 2005).....	18
<i>Teva Pharms. USA, Inc. v. Sandoz, Inc.</i> , 789 F.3d 1335 (Fed. Cir. 2015).....	20

<i>Terves LLC v. Yueyang Aerospace New Materials Co.,</i> No. 1:19-CV-1611, 2021 WL 1172332, at *6 (N.D. Ohio Mar. 29, 2021)	17
<i>Reedhycalog UK LTD v. United Diamond Drilling Servs.,</i> 2008 U.S. Dist. Lexis 93177, *9 (E.D. Tex. Oct. 3, 2008)	16
<i>Warner-Jenkinson Co. v. Hilton Davis Chem. Co.</i> 520 U.S. 17, (1997)	14

Statutes & Regulations

Fed. R. Civ. P.	
§ 56	1
§ 56 (a)	4
37 C.F.R.	
§ 1.56	11
§ 1.56(a)	4, 10
§ 1.56(c)	10

US Patent and Trademark Office Rules

Manual of Patent Examining Procedure	
§ 608.04	1
§ 2001.06(a)	10, 13, 14, 15, 16
§ 2001.06(c)	11, 13, 15, 16
§ 2004	11, 14, 16,
§ 2163.07	1

Patents

U.S. Provisional Application No. 61/981,425	1
U.S. Patent No. 9,930,010	1
U.S. Divisional Patent No. 10,329,653 B2	1
U.S. CIP Patent No. 10,689,740	1

Exhibits

Ex. 01 – Filing Receipt for Terves U.S. Provisional Application No. 61/981,425	1, 3
Ex. 02 – Terves U.S. Patent No. 8,903,010	1, 3
Ex. 03 – Terves U.S. Patent No. 10,329,653	1, 3
Ex. 04 – Terves U.S. Patent No. 10,689,740	1, 3
Ex. 05 – Brian Turung Deposition Excerpts	1, 2
Ex. 06 – English Translation of Aug. 11, 2017 Chinese Office Action	2
Ex. 07 – Xiao Daihong Patent Reference	3, 7

Ex. 08 – Undated Chinese Office Action Response	2
Ex. 09 – ‘010 Patent Information Disclosure Statements	2, 14
Ex. 10 – ‘653 Patent Information Disclosure Statements	2, 13
Ex. 11 – ‘740 Patent Information Disclosure Statements	2, 3, 11
Ex. 12 – USPTO Licensed Patent Attorney Roll	2
Ex. 13 – Jan. 8, 2020 Email from Dfs’ Counsel re. English Translation of Xiao Daihong.....	2
Ex. 14 – Email re. Infringement Contentions and Related Tables to Turung.....	2
Ex. 15 – Summary of Invalidity Claim Charts	2
Ex. 16 – Emails Transmitting NPLs to Turung	2
Ex. 17 – Title Pages of NPLs.....	2
Ex. 18 – Jul. 2, 2021 Email from Matthew Cavanagh to Ed White.....	3
Ex. 19 – Terves’ Final Infringement Contentions	3
Ex. 20 – Swanger Deposition Excerpts.....	3, 6, 7, 18, 19
Ex. 21 – Dfs’ Invalidity Contentions	3, 9
Ex. 22 – Medlin July 27, 2021 Report	3, 4, 20
Ex. 23 – Swanger October 1, 2021 Report	19, 20

MEMORANDUM IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT

I. UNDISPUTED MATERIAL FACTS

As required by Fed. R. Civ. P. 56, Defendants submit the following undisputed material facts (“UMFs”) that support summary judgment in the Defendants’ favor against Terves.

1. **TERVES PATENT FAMILY**

- UMF 1. Terves filed U.S. Provisional Application No. 61/981,425 (the “‘425 Provisional”) on Apr. 18, 2014. Exhibit 1 (filing receipt).
- UMF 2. Terves filed the U.S. application 14/689,295 on Apr. 17, 2015, claiming priority based on the ‘425 Provisional, that issued as U.S. Pat. 9,903,010 (the “‘010 Patent”) on Feb. 27, 2018. Exhibit 2 (‘010 Patent).
- UMF 3. Terves filed the U.S. application 15/641,439 on July 5, 2017, as a divisional patent application of the application for the ‘010 Patent, that issued on June 25, 2019 as U.S. Pat. 10,329,653 B2 (the “‘653 Patent”). Exhibit 3 (‘653 Patent).
- UMF 4. Terves filed the U.S. application 16/158,915 on Oct. 12, 2018, as a continuation-in-part of the application for the ‘653 patent, that issued on Jun. 23, 2020 as U.S. Pat. 10,689,740 (the “‘740 Patent”). Exhibit 4 (‘740 Patent).
- UMF 5. Inventorship and ownership are in common among ‘425 Provisional and the ‘010, ‘653 and ‘740 Patents (collectively “Terves Patent Family”), with all ownership rights vested in Plaintiff. See Exhibits 1 – 4.
- UMF 6. USPTO prosecution counsel for the Terves Patent Family was Brian Turung. Exhibit 5 (Turung trans. 114:24-115:10; 120:18-121:3; 123:13-124:14; 126:7-20). Turung knew about the “especially strong” duty to disclose information used by a foreign patent office to reject patent claims. Exhibit 5 (Turung trans. at 135:4-17). Turung was generally familiar with the duty of candor and disclosure to the USPTO. *Id.* (132:10-15). Turung was involved as counsel in this case both before and after suit was filed. *Id.* (69:25-70:12; 71:25-72:10).
- UMF 7. The Terves Patent Family all have an Apr. 18, 2014 priority date. Exhs 1–4.¹

¹ Since the ‘740 Patent is a continuation-in-part, any “new matter” in the ‘740 Patent is not entitled to priority based on the ‘425 Provisional. See MPEP § 608.04 (new matter) and § 2163.07 (amendments to the app. which are supported in the original Description). This Motion does not address which portions of the ‘740 Patent are entitled to priority, and that issue may be raised later at trial, should one occur, depending on what claims are then pending.

2. CHINESE PATENT OFFICE REJECTION OF TERVES PATENT IN VIEW OF XIAO

- UMF 8. Plaintiff filed a Chinese patent application corresponding to the '010 Patent ("Chinese Application"). Exhibit 5 (Turung trans. 125:6-9).
- UMF 9. The Chinese patent examiner rejected the claims in the Chinese Application in view of a Chinese patent to Xiao Daihong. Exhibit 5 (Turung trans. 244:12-22), Exhibit 6 (English translation of August 11, 2017 office action from Chinese Application) and Exhibit 7 (Xiao Daihong reference).
- UMF 10. Plaintiff amended its claims in the Chinese Application to overcome the rejection based on Xiao Daihong. Exhibit 5 (Turung trans. 210:6-211:4) and Exhibit 8 (undated Chinese Application office action response).
- UMF 11. Plaintiff did not disclose the Chinese office action nor its response thereto to the USPTO in prosecution the '010, '653 or '740 Patents. Exhibit 9 (information disclosure statements ("IDSs") filed in the '010 Patent), Exhibit 10 (IDSs filed in the '653 Patent), Exhibit 11 (IDSs filed in the '740 Patent).

3. LITIGATION AND PROSECUTION-RELATED FACTS

- UMF 12. The Court should take judicial notice that a) this suit was filed on July 15, 1999 alleging that Defendants infringed the claims of the '010 and '653 Patents, and it has been actively litigated since that time, and b) Plaintiff filed a second amended complaint on July 24, 2020 alleging infringement of the '740 Patent after it was issued.
- UMF 13. Litigation counsel for Plaintiff, David Cupar and Matt Cavanagh, are licensed before the USPTO. Exhibit 12 (USPTO licensed patent attorney roll.)
- UMF 14. By January 8, 2020 Plaintiff possessed a full English translation of Xiao Daihong. Exhibit 13, (email from Defendants' counsel referencing document production and copy of Xiao included therewith).
- UMF 15. On January 31, 2020 Turung received Defendants' invalidity contentions prominently relying on Xiao Daihong as a reference that invalidated the Terves Patent Family. Exhibit 14 (email transmitting infringement contentions and related tables to Turung). Defendants' invalidity contentions included one-page summaries that listed Xiao Daihong as the first reference and then listed Xiao Daihong reference supporting the first six invalidity contentions. Exhibit 15 (summaries of invalidity claim charts). Turung remembered seeing the one-page summaries. Exhibit 5 (Turung trans. at 175:21-176:113).
- UMF 16. On February 12, 2020 Turung received four non-patent literature documents ("NPLs") relied on by Defendants in this litigation. Exhibit 16 (email transmitting NPLs to Turung). Exhibit 17 (title pages of each NPL reference).

- UMF 17. The NPLs and some patents relied on by Defendants in this litigation were submitted by Turung the USPTO in the '740 Patent, but he did not submit the English translation of Xiao Daihong nor did he submit the Invalidity Contentions or summaries thereof UMF 11. On April 20, 2020 Turung submitted an IDS in the '740 Patent submitting six documents referenced in Defendants' invalidity contentions: two patents to Xu (not Xiao Daihong) and four NPLs by Shaw, Scharf, Pawar and Hillis. Exhibit 11 ('740 IDSs at pp. 5, 6). Later, on April 26, 2020 Turung submitted another NPL from Defendants to the USPTO. Exhibit 11 ('740 IDSs at p. 2).
- UMF 18. Counsel for Terves expressly abandoned assertion of claims 8, 11, 24, 28, 32, 36, 40, 44, 48, 51, 71, 72, and 75 from the '653 Patent and claim 18 from the '740 Patent. See Exhibit 18, Jul. 2, 2021 Email from Matthew Cavanagh to Ed White.
- UMF 19. Terves has not asserted any infringement of the '010 Patent by any of the Purported Infringing Materials. See Exhibit 19, Terves' Final Contentions.

4. ANTICIPATION FACTS

- UMF 20. Xiao Daihong is prior art to the Terves Patent Family. Exhibits 1 – 4 and 7.
- UMF 21. The example compositions identified in Xiao Diahong would infringe on each of the asserted claims so, conversely, each of the asserted claims is anticipated by Xiao. Exhibit 20, Swanger trans. 179:8-196:14; Exhibit 21, Defendants' invalidity charts (showing how each of the asserted claims are anticipated by Xiao or are obvious in view of Xiao combined with other art); and Exhibit 22, Medlin's July 27, 2021 report ¶¶117-421, 454-495. The analysis includes the following propositions:
- a. Anticipation of all claims by Xiao requires that all elements other than the specifically claimed elements are provided in the "magnesium alloy" specified in each asserted claim.
 - b. Example data disclosed by Xiao possesses an appropriate dissolution rate. Exhibit 7. Conversely if combinations taught by the '653 and '740 Patents do not have the claimed properties (structures and dissolution rates), then the claims are indefinite or invalid.

5. INDEFINITENESS FACTS

- UMF 22. There are few limitations on what could comprise a "magnesium alloy." Exhibit 20 Swanger trans. 175:17-177:20.
- UMF 23. The specifications of the Terves Patent Family do not directly provide any limitations regarding the scope of the term "magnesium alloy." Exhibit 1 – 4; Exhibit 20, Swanger trans. 175:17-22.
- UMF 24. "The '653 and '740 Patents and predecessor patents do not explain how the dissolution rates were determined. Exhibits 1 – 4.

UMF 25. There are several dissolution test methods that can be employed to determine the corrosion rate, or dissolution, of the magnesium-based alloy and each of these methods will result in variable corrosion rates due to different sample preparation, test conditions and testing methodologies. Exhibit 22, Jul. 27, 2021 Medlin Report, ¶ 446-453.

UMF 26. Each of these corrosion testing methods will have variable results, so the failure to specify the testing protocol means that a POSITA would not know how to determine if a material satisfied the claims. Exhibit 22, Jul. 27, 2021 Medlin Report, ¶ 446-453.

II. ARGUMENTS AND AUTHORITIES

The '653 Patent and '740 Patents, relate generally to magnesium composites for use as a dissolvable component in oil drilling. Both are children of the '010 Patent which relates to a method of manufacture for a magnesium composite to enable the controlled dissolving thereof. The method includes adding additive materials to liquid magnesium which are dispersed within the magnesium, and the composite cooled. UMF 2. Similarly, the patents relate generally to a magnesium composite that includes *in situ* precipitation of galvanically-active intermetallic phases to enable controlled dissolution. UMFs 3 and 4. The '010 and '653 Patents have an April 18, 2014 priority date. UMF 7.

Summary judgment is appropriate when the court is satisfied “that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.” Fed. R. Civ. P. 56(a). A fact is “material” only if its resolution will affect the outcome of the lawsuit. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986).

1. XIAO ANTICIPATES THE '653 AND '740 PATENT CLAIMS RENDERING THEM INVALID.

A patent is invalid for anticipation if a single prior art reference discloses each and every limitation of the claimed invention. Moreover, a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference.

Schering Corp. v. Geneva Pharms., 339 F.3d 1373, 1377 (Fed. Cir. 2003) (citations omitted). A patent is presumed valid and must be shown invalid by clear and convincing evidence, *Soile Pharma, Inc. v. Lupin, Ltd.*, 684 F.3d 1253 (Fed. Cir. 2012).

Terves' expert witness, Dr. Lee Swanger, admitted that the elements disclosed by the Xiao reference are found in Claim 1 of the '653 patent, specifically in Example 4 from Xiao which is shown in the adjacent figure. See UMF 21. Dr. Swanger was walked through

[0045] Example 4

[0046] The composition of the alloy and the respective percentages by weight are as follows:

[0047] 18% Al-8% Zn-2.5% Fe-2.0% Ni-5% Cu-1% Ag-0.3% Ti-0.15% Zr, and the remainder is Mg.

[0048] The preparation method is as follows: first pure magnesium and pure aluminum are loaded into a smelting furnace and the temperature is increased to 715 °C. After melting, an Al-Fe intermediate alloy, an Al-Ni intermediate alloy, an Al-Cu intermediate alloy, an Al-Ag intermediate alloy, an Al-Zr intermediate alloy, an Al-Ti intermediate alloy and pure zinc, which have been heated, are next added into the resulting magnesium-aluminum alloy melt, and at the same time the temperature is raised to 750 °C; after melting, the temperature is lowered to 730 °C; a refining agent C_2Cl_6 is then used in a degassing treatment, and the temperature is next lowered to 710 °C; the sample is allowed to stand for a while, and then cast under the protection of argon, and then cooled.

the Xiao Example 4 in relation to Claim 1 of the '653 patent:

Q: Okay. Example 4. What if we took a magnesium alloy that had the aluminum, the zinc, the iron, the silver, the titanium, the zirconium and the manganese specified in example 4 and we use that as our base, and we added to that copper and nickel to come up with example 4 composition, would that be covered by claim 1? [Cupar objects]

A: All right. And I just don't remember where you put the iron in example 4 in your hypothetical question.

Q: In my hypothetical everything but copper and nickel are in the alloy.

A: Even though iron is identified as an additive material you want to include it in the magnesium alloy.

Q: Is there any reason, per the specification, you can't?

A: I don't remember anything in the specification that would indicate that the magnesium alloy can't include what is also claimed as the additive material.

Q: I don't remember anything like that either. Okay. So, you understand my hypothetical now. Everything other than copper and nickel are in the alloy, and you're adding to it copper and nickel sufficient to make the final alloy have...2.0 and 5 percent respectively of nickel and copper?

A: Example 4 does have a dissolution rate within the dissolution rate claimed in

claim 1....And I think that it would form in situ precipitation of galvanically-active intermetallic phases to enable controlled dissolution of said magnesium composite. Not offering a legal opinion, just offering an engineering opinion, *it appears that example 4 from the Xiao patent is practicing Claim 1 of the '653 patent.*

Exhibit 20, Swanger tran. 179:8 – 180:20. See UMF 21. The next question tipped off Dr. Swanger that his testimony just admitted that Xiao invalidated the '653 patent, to wit:

Q And if we flip that on its head, we can say that example 4 [from Xiao] anticipates Claim 1 of the '653 patent, can't we?

Id. at 180:21-23. There was a long pause. Dr. Swanger realized the importance of his answer and attempted to backtrack. *Id.* at 180:24-194:7. Toward the end of Swanger's shambling retreat, Plaintiff's counsel started desperately calling for a break. *Id.* 193:4-15. Counsel for Defendant indicated that closure on this line of questioning was needed before a break, and Dr. Swanger arrived at the assertion that he would distinguish the teaching of Xiao from the Claim 1 of the '653 Patent because "there's no evidence it [Xiao] has the limitation of said additive material, which is nickel and copper forming a precipitant in the magnesium composite. It could form an alloy, which is not a precipitant, and that's my answer." *Id.* 194:2-7. Plaintiff's counsel then got the break he had been clamoring for, which turned out to be 15 minutes.

Upon the deposition resuming, Defendants' counsel gave Dr. Swanger a chance to revisit any of his answers: "Is there anything you've said so far you'd like to change or amend." *Id.* 194:16-17. Dr. Swanger politely indicated that he remained satisfied with his answers. *Id.* 194:18. At that point, the record reflected that Dr. Swanger thought that the claims of the '653 Patent might be distinguishable from the teachings of Xiao because of the possibility that the copper and nickel might form an "alloy, which is not a precipitant." *Id.* 194:2-7. Otherwise, he had conceded anticipation of Claim 1 by Xiao.

Counsel for Defendant then walked Dr. Swanger through the agreed definition of a "precipitant." Upon reviewing the definition, the following exchange occurred:

Q: Let me just ask it much more succinctly. Would you agree with me that looking at the definition of “precipitant,” the parties agreed to, that an alloy formed from cooling liquid is a precipitant?

A: Yes.

Id. 196:10-14. At that point, Dr. Swanger’s attempt to distinguish the ‘653 Patent claims from Xiao evaporated. Dr. Swanger had conceded that Xiao anticipates the ‘653 Patent claims.

But an expert is not necessary to see that the ‘653 and ‘740 patents are anticipated by a plain reading of those patents in light of Xiao. For example, the ‘653 independent claim 1 requires “a mixture of magnesium or a magnesium alloy and an additive material,” The term “magnesium alloy” is not defined in the specification, and the plain reading of that term means a mixture of magnesium and any other metal.² So, any metallic element combined with magnesium found in Xiao would anticipate all magnesium alloys listed in ‘653 and ‘740 Patents. The inclusion of “magnesium alloy” in the ‘653 and ‘740 claims make those claims so broad as to be anticipated by Xiao. See Exhibit 7 at pp.12 – 16 (seven different composition examples discussed). A mixture of magnesium with those components is a magnesium alloy and anticipates the limitation of “magnesium alloy” in ‘653 and 740. But “magnesium alloy” is so broad as to include any combination of metals in any concentration. Indeed, the “magnesium alloy” term is so broad as to include all of the “additive materials” called for in claim 1. To wit, Claim 1 recites

[S]aid additive material having [1] a greater melting point temperature than a solidus temperature of said magnesium, [2] said additive material constituting about 0.05 wt. % - 45 wt. % of said mixture, [3] said additive material forming precipitant in said magnesium composite, [4] said additive material includes one or more metals selected from the group consisting of copper, nickel, iron, and cobalt, [5] said magnesium composite has a dissolution rate of at least 5 mg/cm²/hr. in 3 wt. % KCl water mixture at 90° C.

² The Defendants argue *supra* that “magnesium alloy” is indefinite as the number of such alloys is infinite. Exhibit 20, Swanger Dep. 175:3-7. Plaintiff may argue that an “infinite” number of alloys is not indefinite, but Plaintiff cannot have their cake and eat it too. If it is definite, then that term may include infinite magnesium alloys. *Id.*

Magnesium has a relatively low solidus temperature (melting point) of approximately 1202 °F. The other components cited by Xiao except Zn have higher as shown in the adjacent table. Therefore, Xiao teaches the element of “additive material having a greater melting point than a solidus temperature of said magnesium” in claim 1.

Metal	Melting Temperature (°F)
Zn	787
Mg	1,202
Al	1,221
Ag	1,763
Cu	1,984
Ni	2,651
Fe	2,800
Ti	3,034
Zr	3,371

Xiao recites copper (Cu), nickel (Ni), iron (Fe), aluminum (Al), Zinc (Zn), silver (Ag), zirconium (Zr), titanium (Ti) within the specified concentration ranges. Exhibit 7, Xiao at Claims 1 – 7. A reference with a single chemical composition anticipates a claim covering multiple compositions. *Ecolchem, Inc. v. S. California Edison Co.*, 863 F. Supp. 1165, 1179 (C.D. Cal. 1994), *aff’d in part, rev’d in part*, 91 F.3d 169 (Fed. Cir. 1996). Therefore, Xiao anticipates the “additive materials.”

As noted above, Plaintiffs’ expert conceded that the additives described in Xiao comprised a “precipitant” as the parties agreed to define that term. Exhibit 20, Swanger trans. 196:10-14. More broadly, Defendants’ expert agreed. UMF 21.

Xiao shows dissolution rates in g/cm²/hr,³ but Xiao teaches magnesium mixtures above the 5 mg/cm²/hr required in Claim 1. Therefore, all of the limitations of Claim 1 of the ‘653 Patent are taught by Xiao.

[Independent Claim 12 in ‘653 requires] a magnesium composite comprising a mixture of a magnesium or a magnesium alloy and an additive material, said additive material having a greater melting point temperature than a solidus temperature of said magnesium, said composite including greater than 50 wt. % magnesium, said additive material constituting about 0.05-45 wt. % of said

³ To convert to mg/cm²/hr the values in paragraph [0064] would be multiplied by a 1000 (or the decimal point moved to the right three numerals).

magnesium composite, said additive material having a melting point temperature that is 100° C greater than a melting temperature of said magnesium or magnesium alloy, said additive material including one or more metals selected from the group consisting of copper, nickel, cobalt, titanium, and iron, at least a portion of said additive material remaining unalloyed additive material, said magnesium composite including in situ precipitation of galvanically-active intermetallic phases that includes said unalloyed additive material, said magnesium composite has a dissolution rate of at least 5 mg/cm²/hr. in 3 wt. % KCl water mixture at 90° C.

Once again, all of these limitations are taught by Xiao including the “magnesium alloy.” Xiao teaches “additive materials” with “a melting point temperature that is 100 °C greater than a melting temperature of said magnesium or magnesium alloy.” Of course, since “magnesium alloy” is indefinite, the melting point of the magnesium alloy in Plaintiff’s claims cannot be determined for a comparison.

[Independent claim 24 in ‘653 requires a] magnesium alloy composite comprising at least 85 wt. % magnesium; one or more metals selected from the group consisting of 0.5-10 wt. % aluminum, 0.05-6 wt.% zinc, 0.01-3 wt.% zirconium, and 0.15-2 wt. % manganese; and about 0.05-45 wt. % of a secondary metal to form a galvanically-active intermetallic particle that promotes corrosion of said dissolvable magnesium alloy composite, said secondary metal including one or more metals selected from the group consisting of copper, nickel, cobalt, titanium and iron, said magnesium alloy composite has a dissolution rate of at least 5 mg/cm²/hr. in 3 wt. % KCl water mixture at 90° C.

Again, Xiao teaches a composite that is exactly this mixture with the required properties. A detailed element-by-element comparison for each claim of the ‘653 and ‘740 patents is provided in Exhibit 21, Defendants’ Final Invalidity and Noninfringement Contentions. In view of the foregoing and the asserted claims of the ‘653 and ‘740 Patents are invalid.

2. INEQUITABLE CONDUCT RENDERS TERVES' PATENTS INVALID.

As an *ex parte* process, applying for and receiving a patent from the United States Patent and Trademark Office ("USPTO") requires a heightened duty of disclosure and candor on the applicant for patent with the USPTO.

A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when...[the USPTO] is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability...*The duty to disclose information exists with respect to each pending claim....*

37 C.F.R. § 1.56(a) (emphasis added). Prosecution counsel was aware of this duty. UMF 6. This heightened duty extends to

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, [or] the applic ant....

37 C.F.R. § 1.56(c). Thus, litigation counsel has the duty as well and should be more familiar with it as licensed patent attorneys. UMF 13.

The Manual for Patent Examining Procedure ("MPEP") extends this duty to disclosing information cited in foreign applications, which is "especially strong where it has been used in rejecting the same or similar claims in the foreign application or where it has been identified in some manner as particularly relevant." MPEP § 2001.06(a) (citing *Gemveto Jewelry Co. v. Lambert Bros., Inc.*, 542 F. Supp. 933 (S.D.N.Y. 1982)). "Conduct before the PTO that may render a patent unenforceable is broader 'than common law fraud.'" *J.P. Stevens & Co. v. Lex Tex Ltd., Inc.*, 747 F.2d 1553, 1559 (Fed. Cir. 1984).

Inequitable Conduct requires clear and convincing evidence of “materiality” and that threshold can be “(1) objective ‘but for’; (2) subjective ‘but for’; (3) ‘but it may have been’; and (4) PTO Rule 1.56(a), i.e., whether there is a substantial likelihood that a reasonable examiner would have considered the omitted reference or false information important in deciding whether to allow the application to issue as a patent.” *J.P. Stevens & Co.* 747 F.2d at 1559. In *J.P. Stevens & Co.* the court ruled held that the PTO standard is the “appropriate starting point” of the analysis “because it most closely aligns with how one ought to conduct business with the PTO.” *Id.*

The MPEP emphasizes that [i]t is also important that an attorney or agent make sure that foreign clients, including foreign applicants, attorneys, and agents understand the requirements of the duty of disclosure, and that the U.S. attorney or agent review any information disclosure statements or citations to ensure that compliance with 37 CFR 1.56...

MPEP § 2004 (citing *Semiconductor Energy Laboratory Co. v. Samsung Electronics Co.*, 204 F.3d 1368, 54 USPQ2d 1001 (Fed. Cir. 2000) (invalidating a patent where the patentee submitted an untranslated 29-page Japanese reference as well as a concise explanation of its relevance which was directed to less material portions of the reference)).

[A] challenger must show by clear and convincing evidence that the patent applicant (1) misrepresented or omitted information material to patentability, and (2) did so with specific intent to mislead or deceive the USPTO.” *Everlight Elecs. Co. v. Nichia Corp.*, 143 F. Supp. 3d 644, 656 (E.D. Mich. 2015), *aff’d*, 719 F. App’x 1008 (Fed. Cir. 2018). “Intent to deceive the PTO must be ‘the single most reasonable inference able to be drawn from the evidence.’” *Everlight Elecs. Co.* 143 F. Supp. 3d at 644.

The duty to disclose extends to disclosure of information obtained during the course of litigation and the mere existence of the litigation. The USPTO demands that the “existence of such litigation and any other material information arising therefrom must be brought to the attention of the [patent] examiner or other appropriate official” at the USPTO. MPEP § 2001.06(c).

Information to be disclosed includes pleadings, admissions, discovery, depositions and other documents and testimony. *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1258-59 (Fed. Cir. 1997) (holding a patent unenforceable due to the inequitable conduct based on patentee's failure to disclose a relevant reference and for failing to disclose ongoing litigation).

Plaintiff knew about the following information that should have been disclosed to the USPTO, but Plaintiff chose to conceal it instead: 1) the rejection of claims in Terves' Chinese Application in view of Xiao (UMF 9), 2) narrowing amendment of claims in the Chinese Application to overcome the Xiao rejection and related arguments (UMF10), 3) the initiation of litigation involving the '653 and '740 patents (UMF 12), 4) an English translation of Xiao (UMF 14), and 5) Defendants' invalidity contentions (UMF 15).

Two different times Plaintiff possessed information highly relevant to patentability and elected to conceal, rather than to disclose it. Plaintiff will argue that it lacked the relevant intent, but Defendants ask the Court to carefully consider whether intentional, calculated decision making or incompetence is more likely to explain the decisions made in prosecuting the Terves Patent Family. Defendants submit that an "[i]ntent to deceive the PTO" is "the single most reasonable inference able to be drawn from the evidence." *Everlight Elecs. Co.* 143 F. Supp. 3d at 644.

First, during prosecution of a Chinese Application corresponding to '010 Patent, the claims were rejected by the Chinese patent office citing Xiao Daihong. UMF 9. Rather than argue with the Chinese patent office that the Xiao reference was distinguishable, Plaintiff chose to amend its claims to include a specific processing option not taught by Xiao.⁴ UMF10. Plaintiff chose to

⁴ The processing distinction used by Plaintiff to distinguish the *process* claims of the '010 Patent before the Chinese patent office would not apply to the composition claims in the '653 and '740 Patents. Composition claims are generally independent from the process used to create the composition. Plaintiff has dropped any claims that require a specific method of manufacturing the accused alloys because it has not named the manufacturer and cannot say what method was used. See, e.g., UMF 19(dropping the method claims of the '010 Patent).

conceal the whole series of events at the Chinese patent office from the USPTO. UMF 11. MPEP § 2001.06(a) provides that the duty of disclosure and candor is “especially strong where it has been used in rejecting the same or similar claims in the foreign application or where it has been identified in some manner as particularly relevant.” Turung knew about this “especially strong” duty but did not tell the USPTO anything about Xiao’s provenance. UMFs 6 and 11. What Plaintiff did here is analogous to knowing about a controlling and adverse case directly on point and putting it in a string citation with a bunch of irrelevant (or marginally relevant) cases to hide its importance, or not disclosing it at all.

Second, after suing Defendants, Plaintiff received a number of references and a road map to applying them to invalidate the claims of the ‘740 Patent. UMFs 14 – 17. Rather than advising the USPTO about the litigation and giving Defendants’ roadmap to the USPTO, Plaintiff chose to disclose only selected portions of the information without the road map provided by Defendants’ infringement contentions. UMFs 14 – 17. Both litigation counsel and prosecution counsel were involved in deciding what to disclose and knew their decisions would receive close scrutiny during litigation. The “existence of such litigation and any other material information arising therefrom **must** be brought to the attention of the” USPTO. MPEP § 2001.06(c) (emphasis added). Information to be disclosed includes pleadings, admissions, discovery, depositions and other documents and testimony. *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1258-59 (Fed. (holding a patent unenforceable due to the inequitable conduct for failure to disclose a relevant reference and ongoing litigation)).

Plaintiff disclosed 210 references to the USPTO during the prosecution of the ‘653 Patent and 239 during the prosecution of the ‘740 Patent. UMF 11 (Ex. 10 IDSs from ‘653 Patent and Ex. 11 IDSs from ‘740 Patent). Where even a single paragraph within one of the references could

be the key provision that anticipates an invention, preventing the issuance of a patent, Plaintiff had a duty to advise the USPTO regarding which of the hundreds of references were particularly key to patentability, but it failed to do so. MPEP § 2004 (item 13) provides that “if a long list [of references] is submitted, highlight those documents which have been specifically brought to applicant’s attention and/or are known to be of most significance.”

- August 11, 2017 Plaintiff became aware of claim rejections based on Xiao. Under USPTO rules, it should have disclosed Xiao and explained that it became aware of it as a result of claim rejections by the Chinese patent office.⁵ Plaintiff chose to only submit a partial translation of Xiao (abstract only) with zero explanation of how Plaintiff became aware of the reference despite Turung’s knowledge of the “especially strong” duty when foreign claims were rejected based on a reference.⁶ UMF 6 and MPEP § 2001.06(a). Xiao was submitted at the same time as 88 other references. Ex. 9 at p.8. Plaintiff failed to advise the USPTO of the claim rejections in view of Xiao or to provide a full translation of same. UMF 11.
- Shortly thereafter, submitted an office action response and narrowed its claims in response to the Xiao rejection.⁷ However, despite the “especially strong” duty of disclosure, Plaintiff

⁵ Defendants focus on Plaintiff’s aggregate corporate knowledge rather than each individual’s knowledge. Further, the focus on Plaintiff’s knowledge holds Plaintiff to the requirements of *Gemveto Jewelry Co. v. Lambert Bros., Inc.*, 542 F. Supp. 933 (S.D.N.Y. 1982) (“foreign patent attorneys representing applicants for U.S. patents through local correspondent firms must be held to the same standards of conduct which apply to their American counterparts; a double standard...would allow foreign attorneys and their clients to escape responsibility for fraud or inequitable conduct merely by withholding from the local correspondent information unfavorable to patentability and claiming ignorance”).

⁶ Plaintiff’s conduct was the same as conduct that invalidated a patent. *Semiconductor Energy*, 204 F.3d 1368 (invalidating a patent where the patentee submitted an untranslated 29-page Japanese reference as well as a concise explanation of its relevance which was directed to less material portions of the reference).

⁷ An amendment that narrows a claim before the USPTO gives rise to prosecution history estoppel. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 30 (1997). If estoppel applies here, only products manufactured using the specific process described in the amendment would be protectible. See UMF 10. Defendants’ products are not manufactured using the process Plaintiff described, so its products would not infringe claims so limited.

failed to advise the USPTO of the narrowing claim amendments in view of Xiao. UMF 11 and MPEP § 2001.06(a).

- On July 15, 1999, while Plaintiff was prosecuting of the ‘740 Patent at the USPTO, Plaintiff filed suit. UMF 12. Despite a clear duty to disclose the existence of the litigation, Plaintiff chose not to do so. UMFs 11, 12 and MPEP 2001.06(c) (“existence of such litigation and any other material information arising therefrom must” be disclosed). At that point, two different USPTO-licensed litigation counsel and Turung were intimately involved with litigation and the related patent prosecution. UMFs 6, 13. However, despite the rule that litigation must be disclosed, Plaintiff and its three USPTO-licensed counsels failed to advise the USPTO of this litigation. UMFs 11 and 12 and MPEP § 2001.06(c).
- In January 2020, Plaintiff received Defendants’ invalidity contentions and the references relied on, including an English translation of Xiao Daihong. UMFs 14, 15. Plaintiff and its three counsels knew that they had a duty to disclose materials related to the litigation, and *in two tranches* they chose to disclose only certain materials received in the litigation. UMFs 15 – 17 and MPEP § 2001.06(c). Despite the rule that the litigation itself and relevant pleadings therefrom must be disclosed, Plaintiff and its three USPTO-licensed counsels failed to advise the USPTO of this litigation or of Defendants’ infringement contentions. UMFs 6, 11 and MPEP § 2001.06(c).

The foregoing scenario played out over more than two years during which Plaintiff was represented by three USPTO-licensed counsels. This was not an isolated failure to disclose a particular reference or to follow USPTO rules.

Plaintiff was expansive in its *technical* compliance with the duty to disclose references: disclosing 239 references. Plaintiff submitted references that only had marginal, if any, relevance to its patent claims. In fact, Plaintiff's disclosures could be viewed as a sort of "data dump" calculated to overwhelm the lone USPTO examiner charged with reviewing disclosed documents in a limited amount of time. Accord MPEP § 2004 (item 13 providing that "if a long list [of references] is submitted, highlight those documents which have been specifically brought to applicant's attention and/or are known to be of most significance) with *Reedhycalog UK, LTD v. United Diamond Drilling Servs*, 2008 U.S. Dist. Lexis 93177, *9 (E.D. Tex. Oct. 3, 2008) ("producing party may not bury those relevant documents in the hope that opposing counsel will overlook the proverbial 'smoking gun' as he wades through an ocean of production").

Yet when it came to a certain category of documents, Plaintiff utterly failed to follow clear USPTO rules requiring disclosure, to wit: the Chinese office action, Plaintiff's response to the Chinese office action narrowing its claims, the existence of the litigation, Defendants' infringement contentions, and the English translation of Xiao. It just so happens that the category of documents for which Plaintiff erred on the side of NOT disclosing, they are the ones that were most likely to result in the USPTO rejecting Plaintiff's claims or requiring the claims to be narrowed.

In fact, the documents Plaintiff chose not to disclose are clearly material per the regulations of the USPTO and as demonstrated by the decision to reject Plaintiff's claims in view of Xiao. UMFs 9, 10 (Chinese claim rejection and narrowing amendment), 12, 14, 15 (existence of litigation and invalidity contentions); MPEP §§ 2001.06(a) (duty to disclose "especially strong" where foreign office rejected claims) 2001.06(c) (litigation and pleading must be disclosed).

Additionally, the USPTO's decision to undertake *ex parte* review of Plaintiff's patents in view of Defendants' arguments relying largely on Xiao further demonstrate materiality.

Everlight Elecs. Co. 143 F. Supp. 3d at 644 requires that the "intent to deceive the PTO must be 'the single most reasonable inference able to be drawn from the evidence.'" Plaintiff achieved a semblance of compliance with disclosure, potentially even over disclosure, while not giving the USPTO required references, which are the most likely to result in rejection of claims, leaves Defendants with the firm conclusion that an intent to deceive is the most logical way to understand these events. Defendants look forward to Plaintiff's spin on its conduct.

3. INDEFINITENESS OF THE CLAIM TERM "MAGNESIUM ALLOY"

The Patent Act requires that a patent specification conclude with one or more claims *particularly pointing* out and distinctly claiming the subject matter which the applicant regards as [the] invention....[W]e hold that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 901 (2014) (citations omitted) (*cited in Terves LLC v. Yueyang Aerospace New Materials Co.*, No. 1:19-CV-1611, 2021 WL 1172332, at *6 (N.D. Ohio Mar. 29, 2021) (claims held definite on other grounds). "[D]efiniteness must be evaluated from the perspective of someone skilled in the relevant art ... from the viewpoint of a person skilled in the art at the time the patent was filed." In addition, in "assessing definiteness, claims are to be read in light of the patent's specification and prosecution history." *Accordant Energy, LLC v. Vexor Tech., Inc.*, No. 1:17 CV 411, 2017 WL 5588869, at *2 (N.D. Ohio Nov. 21, 2017).

In *A. Schulman, Inc. v. Polyone Corp., Inc.*, No. 1:15 CV 1760, 2017 WL 2805857, at *3 (N.D. Ohio Apr. 27, 2017), *aff'd sub nom.*, 712 F. App'x 1007 (Fed. Cir. 2018) a sister Court in the Northern District of Ohio found a patent to be invalid because a "distinctiveness of image"

(“DOI”) claim term was indefinite because the industry “uses a variety of metrics to assess both durability and DOI.” *Id.* at *1. The parties identified two testing standards, but “the patent does not expressly disclose which of those methods to use.” *Id.* at *4. In that case, “the Court finds that the DOI limitation is indefinite rendering both patents-in-suit invalid.” *Id.* at *3.

In the instant case, the ‘653 and ‘740 patents failed to particularly point out what is meant by a “magnesium alloy” or a “dissolution rate” and the claims that contain these terms are indefinite and therefore invalid. Indeed, Terves’ expert testified as follows:

Q: How many magnesium alloys are there?

A: Probably say there is an infinite number because you can make infinitesimal changes to the percentages of additions to the magnesium to make it a different magnesium alloy.

Exhibit 20, Swanger trans. 175:3-7. An “infinite” number of “magnesium alloys” is not just overbroad, but indefinite and a PHOSITA would have no guidance into what alloy from which to choose. *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1340–41 (Fed. Cir. 2005) held that “breadth is not indefiniteness” but the claim must delineate to a skilled artisan the bounds of the invention. In the ‘653 and ‘740 Patents, the PHOSITA is left searching for a “magnesium alloy” from an unlimited number of possible components and concentrations. In *SmithKline Beecham Corp.* the invention was “neither broad nor narrow, but definitive of this particular chemical structure. For inventing and disclosing this structure, the inventor enjoys the exclusive right to practice that invention for the patent's limited term.” *Id.* In this case, Plaintiff neither invented a “magnesium alloy” nor defined a particular chemical structure, and it should not be allowed claim such an “infinite” scope of “magnesium alloy” metallurgy as its own.

The plain meaning of “magnesium alloy” is a mixture of magnesium and any other metal in any concentration. Dr. Swanger testified that a magnesium alloy is “a metal that is primarily made of magnesium but has other elements added to it beside the magnesium. And then it exists

in metallic form went it is below the melting point -- exists in solid form below the melting point.” Exhibit 20, Oct. 10, 2021 Swanger trans. 174:21 – 175:2; *and see* UMF 22. Thus, any metal added to magnesium would be a “magnesium alloy.”

A “magnesium alloy” is a mixture of magnesium with other metals, often aluminum, zinc, manganese, silicon, copper, rare earth metals, or zirconium. Dr. Medlin’s opinion seriously underestimates a POSITA because a POSITA would have first learned about a “magnesium alloy” in a basic high-school science course and have significantly developed that knowledge by April 2014.

Exhibit 23, Oct 1, 2021 Swanger Report 34-35. This is exactly the point. A magnesium alloy is a “mixture of magnesium with other metals” but what other metals? A basic high-school science textbook would discuss all the metals in the periodic table, but that does not help the PHOSITA decide which metal to choose here. Dr. Swanger’s report demonstrates the indefiniteness of the term “magnesium alloy.”

The specifications and the claims of the ‘653 or ‘740 patents “magnesium alloy” do not provide a PHOSITA any guidance as to what should be included in the alloy. The choices of metals and the concentration of those metals are “infinite” making that term indefinite. For this reason, any claim that contains the term “magnesium alloy” or depends on such a claim is indefinite under *Nautilus* and invalid.

4. INDEFINITENESS OF THE CLAIM TERM “DISSOLUTION RATE”

Under *Nautilus* the term “dissolution rate” is also indefinite and renders claims containing such a term or depending on such a claim invalid. The ‘653 and ‘740 claims repeatedly contain the phrase “has a dissolution rate of at least 5 mg/cm²/hr. in 3 wt. % KCl water mixture at 90° C.” *Cf.*, ‘653 Patent Claim 1. The ‘010, ‘653 and ‘740 specifications never define “dissolution rate” and the term is used throughout most of the claims in the ‘653 and ‘740 patent. This purported limitation is indefinite as there are numerous methods of determine dissolution rate and there are

numerous variations of those methods all of which will provide different numerical results. The PHOSITA is given no guidance as to how “dissolution rate” is to be determined.

[T]here are several other corrosion rate (dissolution) methods that can be employed to determine the corrosion rate, or dissolution, of the magnesium-based alloy and each of these methods will result in variable corrosion rates due to different sample preparation, test conditions and testing methodologies. Some of the other test methods include: potentiodynamic corrosion tests, electrochemical impedance spectrometry, hydrogen gas testing over time, and inductively coupled plasma optical emission spectrometry solution analysis of the metal ions released. Because each of these methods will have variable results it is imperative that the patent application specify which corrosion rate methodology should be employed when determining and describing the dissolution rates.

Exhibit 22, Medlin July 27, 2021 report ¶450. Dr. Swanger claims that a PHOSITA would have known to use the method ASTM G31. Exhibit 23, Oct 1, 2021 Swanger Rep. at 35. He argues that Defendants’ Expert claimed that “are several other dissolution rate methods that *can* be employed, not that a POSITA would have employed them.” *Id.* Dr. Swanger made Defendants’ point: other dissolution rate methods *can* be employed, and the ‘653 and ‘740 specifications and claims do not specify what method *should* be employed. The specification must recite the method to be definite. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1345 (Fed. Cir. 2015) (holding that a claim is invalid because the patentee has failed to inform which method of determining molecular weight should be used.). Dr. Swanger’s subjective opinion of what the PHOSITA should have presumed does not make the “dissolution rate” term any more definite.

III. CONCLUSION

Defendants ask the Court to (1) dismiss with prejudice the claims expressly abandoned by Terves: all ‘010 Patent claim, claims 8, 11, 24, 28, 32, 36, 40, 44, 48, 51, 71, 72, and 75 from the ‘653 Patent and claim 18 from the ‘740 Patent; (2) find that the asserted claims of the ‘653 and ‘740 Patents invalid due to (a) anticipation, (b) the inequitable conduct, and (c) indefiniteness.

Dated: November 18, 2021.

Respectfully submitted,

/s/ Edward L. White

Edward L. White, OBA No. 16549

EDWARD L. WHITE, P.C.

829 E. 33rd Street

Edmond, OK 73013

Telephone: (405) 810-8188

Facsimile: (405) 608-0971

Email: ed@edwhitelaw.com

ADMITTED PRO HAC VICE

Martin S. High, SC Bar #102735; OK Bar

#20725, TX Bar # 24108819

Martin S. High, P.C.

PO Box 33190

Clemson SC 29733-3190

Phone: 864.300.2444

Fax: 866.232.1096

Email: marty@martyhigh.com

ADMITTED PRO HAC VICE

Joe E. White, Jr. OBA No. 12930

Charles C. Weddle, III, OBA No. 18869

WHITE & WEDDLE, P.C.

630 N.E. 63rd Street

Oklahoma City, OK 73105

Telephone: (405) 858-8899

Facsimile: (405) 858-8844

Emails: joe@whiteweddle.com

charles@whiteweddle.com

ADMITTED PRO HAC VICE

**COUNSEL FOR DEFENDANTS,
ECOMETAL INC. AND NICK YUAN**

CERTIFICATE OF SERVICE

I certify that on November 18, 2021, I electronically transmitted the foregoing document to the Clerk of the Court using the ECF system for filing and transmittal of a Notice of Electronic Filing to the following ECF registrants:

David B. Cupar
Matthew J. Cavanagh
Andrew D. Gordon-Seifert
Lidia C. Mowad

/s/ Edward L. White
Edward L. White
COUNSEL FOR DEFENDANTS

CERTIFICATE OF COMPLIANCE

1. This case has been assigned to the standard track. *See* ECF No. 20.
2. This document complies with the page limitations of LR 7.1(f) as this motion does not exceed 20 pages in length.

/s/ Edward L. White
Edward L. White
COUNSEL FOR DEFENDANTS